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THE MEDICAL REPORT

FOR THE

STATE OF SELANGOR,

1904.

RETURN OF THE STATISTICS OF POPULATION OF SELANGOR  
FOR THE YEAR 1904.

State of Selangor.	Europeans and Eurasians.	Chinese.	Malays.	Tamils.	Others.	Total.
Number of Inhabitants on 31st Dec., 1903 ...	2,038	143,972	50,300	19,475	1,138	216,923
„ Births during the year 1904	52	581	1,379	141	281	2,434
„ Deaths „ „	23	4,203	992	547	275	6,040
„ Immigrants „ „	1,400	44,041	13,481	11,449	828	71,199
„ Emigrants „ „	1,002	30,537	10,196	7,979	398	50,112
„ Inhabitants on 31st Dec., 1904 ...	2,465	153,854	53,972	22,539	1,574	234,404
Increase ... ..	427	9,882	3,672	3,064	436	17,481
Decrease ... ..	...	...	...	...	...	...

METEOROLOGICAL RETURN OF KUALA LUMPUR  
FOR THE YEAR 1904.

	Temperature.						Rainfall.*		Winds.	
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average force.
January ... ..	146.0	52.2	88.2	67.8	20.4	79.2	12.03	81	S.W.	Not recorded.
February ... ..	151.8	53.5	89.1	67.4	21.7	79.9	3.22	80	Calm.	
March ... ..	148.3	51.8	89.4	68.3	21.1	80.2	8.47	81	S.W.	
April ... ..	138.5	52.2	90.1	69.3	20.8	79.3	14.00	81	S.W.	
May ... ..	150.8	53.3	89.2	67.0	22.2	80.1	10.03	82	S.W.	
June ... ..	143.5	52.3	91.3	68.2	23.1	80.8	3.91	77	S.W.	
July ... ..	145.8	52.5	89.7	71.8	17.9	80.3	6.49	77	Calm.	
August ... ..	150.0	53.3	88.9	70.9	17.9	77.6	6.19	81	Calm.	
September ... ..	146.0	53.9	90.2	70.6	19.6	81.1	11.35	76	Calm.	
October ... ..	140.1	55.1	89.0	71.7	17.3	79.4	15.73	80	S.W.	
November ... ..	149.3	54.2	88.5	71.7	16.8	80.3	8.12	78	Calm.	
December ... ..	146.8	52.4	89.7	71.8	17.9	80.4	8.47	79	Calm.	
Mean ... ..	146.4	53.0	89.4	69.7	19.7	79.8	9.00	79	Calm.	

\* Total rainfall 108.01 inches.

RETURN OF DISEASES AND DEATHS IN 1904 AT  
ALL HOSPITALS IN SELANGOR.

Diseases.	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
GENERAL DISEASES.					
Small-pox ... ..	...	3	1	3	...
Chicken-pox ... ..	...	22	...	22	1
Measles ... ..	...	5	...	5	...
Typhus ... ..	...	...	...	...	...
Dengue ... ..	...	61	...	61	3
Influenza ... ..	...	3	...	3	1
Plague ... ..	...	1	1	1	...
Mumps ... ..	2	5	...	7	...
Diphtheria ... ..	...	...	...	...	...
Febricula ... ..	...	5	...	5	...
Enteric Fever ... ..	2	42	19	44	1
Cholera ... ..	...	...	...	...	...
Dysentery ... ..	20	579	183	599	23
Yellow Fever ... ..	...	...	...	...	...
Beri-beri ... ..	275	1,808	326	2,083	264
Malarial Fever—					
(a) Intermittent—					
Malignant ... ..	8	490	49	498	19
Tertian ... ..	6	123	...	129	3
Quartan ... ..	...	100	6	100	5
Irregular ... ..	...	...	...	...	...
Type undiagnosed ... ..	22	1,173	50	1,195	47
(b) Remittent ... ..	...	21	3	21	...
(c) Pernicious R. ... ..	...	...	...	...	...
Cachexia ... ..	10	55	6	65	4
Phagedæna—					
(a) Sloughing ... ..	10	16	4	26	7
(b) Hospital gangrene ... ..	...	...	...	...	...
Erysipelas ... ..	1	4	...	5	...
<i>Carried forward</i> ...	356	4,516	648	4,872	378

\* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
GENERAL DISEASES---(cont.)					
<i>Brought forward</i> ...	356	4,516	648	4,872	378
Pyæmia ... ..	...	2	2	2	...
Septicæmia ... ..	...	7	7	7	...
Tetanus ... ..	...	1	1	1	...
Tubercle ... ..	2	6	2	8	...
Leprosy— ... ..	125	158	48	283	137
(a) Tubercular ... ..	...	...	...	...	...
(b) Anæsthetic ... ..	...	...	...	...	...
Yaws ... ..	...	1	...	1	...
Syphilis—					
(a) Primary ... ..	7	138	...	145	8
(b) Secondary ... ..	10	292	9	302	31
(c) Inherited ... ..	12	17	2	29	...
Gonorrhœa ... ..	18	148	...	166	8
Hydrophobia ... ..	...	...	...	...	...
Scurvy ... ..	...	...	...	...	...
Alcoholism ... ..	1	15	...	16	2
Delirium Tremens ... ..	...	2	1	2	...
Rheumatic Fever ... ..	...	4	...	4	...
Rheumatism ... ..	38	610	1	648	44
Gout ... ..	...	...	...	...	...
New Growth, non-malignant ... ..	...	25	3	25	...
Do. malignant ... ..	...	23	7	23	1
Rickets ... ..	...	...	...	...	...
Anæmia ... ..	22	291	45	313	20
Myxœdema ... ..	...	...	...	...	...
Diabetes mellitus ... ..	1	1	1	2	1
Do. insipidus ... ..	...	1	...	1	...
Debility ... ..	13	163	12	176	8
Other Diseases ... ..	4	92	5	96	10
<i>Carried forward</i> ...	609	6,513	794	7,122	648

\* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.



Diseases.	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	609	6,513	794	7,122	648
LOCAL DISEASES.					
NERVOUS SYSTEM.					
Sub-Section 1—					
Neuritis ... ..	...	4	...	4	...
Meningitis ... ..	...	7	4	7	...
Myelitis ... ..	1	13	2	14	7
Hydrocephalus ... ..	...	...	...	...	...
Encephalitis ... ..	...	...	...	...	...
Abscess of Brain ... ..	...	1	...	1	...
Congestion of Brain ... ..	...	1	1	1	...
Sub-Section 2—					
Apoplexy ... ..	...	20	5	20	8
Paralysis ... ..	27	51	10	78	13
Bed-sore ... ..	...	...	...	...	...
Chorea ... ..	1	...	...	1	...
Epilepsy ... ..	...	5	1	5	...
Neuralgia ... ..	...	19	...	19	1
Hysteria ... ..	1	9	...	10	1
Sub-Section 3—					
Idiocy ... ..	4	4	2	8	3
Mania ... ..	10	76	13	86	30
Melancholia ... ..	20	42	8	62	28
Dementia ... ..	16	21	5	37	19
Delusional Insanity ... ..	2	7	1	9	2
Other Diseases of the System ... ..	9	88	12	97	33
EYE.					
Conjunctiva—					
Conjunctivitis ... ..	1	51	...	52	4
Cornea—					
Keratitis ... ..	...	7	1	7	...
Ulceration ... ..	7	65	1	72	7
Opacity ... ..	...	...	...	...	...
<i>Carried forward</i> ...	708	7,004	860	7,712	804

\* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	708	7,004	860	7,712	804
LOCAL DISEASES—(cont.)					
EYE—(cont.)					
Schlerotic—					
Staphyloma... ..	...	2	...	2	...
Iris—					
Iritis ... ..	1	18	...	19	2
Glaucoma ... ..	...	4	...	4	1
Hypopyon ... ..	...	...	...	...	...
Lens—					
Cataract ... ..	4	19	...	23	5
Eyelids—					
Entropion ... ..	...	8	...	8	...
Other Eye Diseases ... ..	40	56	3	96	38
EAR.					
Inflammation ... ..	...	4	...	4	1
Other Ear Diseases ... ..	...	12	2	12	...
NOSE.					
Inflammation ... ..	...	2	...	2	...
Other Nose Diseases ... ..	...	11	1	11	...
CIRCULATORY SYSTEM.					
Membranes—					
Pericarditis... ..	...	2	1	2	...
Endocarditis ... ..	...	2	2	2	...
Valvular Diseases ... ..	1	34	16	35	6
Muscular Substance—					
Hypertrophy ... ..	...	1	...	1	...
Dilatation ... ..	...	...	...	...	...
Other Diseases of the System ... ..	1	20	6	21	...
RESPIRATORY SYSTEM.					
LARYNX—					
Laryngitis ... ..	...	4	1	4	1
<i>Carried forward</i> ...	755	7,203	892	7,958	858

\* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	755	7,203	892	7,958	858
LOCAL DISEASES—(cont.)					
RESPIRATORY SYSTEM—(cont.)					
Bronchi—					
Bronchitis ... ..	6	253	3	259	10
Asthma ... ..	3	47	1	50	2
Lung—					
Congestion ... ..	...	...	...	...	...
Hæmoptysis ... ..	1	4	1	5	...
Pneumonia ... ..	8	154	72	162	7
Gangrene ... ..	...	6	6	6	...
Phthisis ... ..	9	361	201	370	17
Emphysema ... ..	1	4	1	5	...
Pleura—					
Pleurisy ... ..	2	59	11	61	1
Empyema ... ..	...	10	3	10	2
Other Diseases of the System ... ..	1	81	5	82	1
DIGESTIVE SYSTEM.					
Mouth—					
Stomatitis ... ..	1	12	...	13	1
Dental Periostium—					
Gun-boil ... ..	...	2	...	2	...
Fauces—					
Tonsillitis ... ..	...	7	...	7	...
Stomach—					
Gastritis ... ..	...	3	...	3	2
Dyspepsia ... ..	4	120	1	124	...
Intestines—					
Enteritis ... ..	...	1	1	1	...
Sprue ... ..	...	7	2	7	...
Hernia ... ..	...	14	...	14	2
Constipation ... ..	2	109	...	111	2
Diarrhoea ... ..	39	502	145	541	27
<i>Carried forward</i> ...	832	8,959	1,345	9,791	932

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† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.



Diseases.	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	832	8,959	1,345	9,791	932
LOCAL DISEASES—(cont.)					
DIGESTIVE SYSTEM—(cont.)					
Rectum and Anus —					
Hemorrhoids ... ..	2	30	...	32	1
Liver—					
Hepatitis ... ..	...	7	...	7	1
Abscess Liver ... ..	...	12	5	12	...
Cirrhosis ... ..	5	118	54	123	16
Congestion Liver ... ..	...	1	...	1	...
Jaundice ... ..	1	10	2	11	...
Peritoneum—					
Peritonitis ... ..	...	4	2	4	...
Ascites ... ..	...	6	2	6	...
Other Diseases of the System ... ..	5	114	13	119	3
LYMPHATIC SYSTEM.					
Spleen—					
Splenitis ... ..	1	46	...	47	3
Bubo ... ..	...	109	1	109	11
Lymphangitis ... ..	...	3	...	3	...
Elephantiasis ... ..	...	2	...	2	...
Other Diseases of the System ... ..	...	5	...	5	1
URINARY SYSTEM.					
Kidney—					
Acute Nephritis ... ..	...	9	2	9	1
Bright's Disease ... ..	6	108	34	114	11
Hæmaturia ... ..	...	...	...	...	...
Chyluria ... ..	...	...	...	...	...
Bladder—					
Cystitis ... ..	...	6	...	6	1
Calculus ... ..	...	7	1	7	1
Other Diseases of the System ... ..	...	8	2	8	...
<i>Carried forward</i> ...	852	9,564	1,463	10,416	982

\* *i.e.*, the year previous to that for which the Return is made.

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‡ The figures in this column to be carried on to the next year's Return



Diseases.	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	852	9,564	1,463	10,416	982
LOCAL DISEASES—(cont.)					
GENERATIVE SYSTEM.					
Urethra—					
Stricture ... ..	...	14	1	14	1
Prepuce—					
Phimosis ... ..	1	34	...	35	1
Paraphimosis ... ..	1	4	...	5	1
Penis—					
Soft Chancre ... ..	5	165	1	170	15
Scrotum—					
Sloughing Scrotum ... ..	...	5	...	5	...
Tunica Vaginalis—					
Hydrocele ... ..	...	13	...	13	2
Testicle—					
Orchitis ... ..	...	17	...	17	...
Epididymitis ... ..	...	20	...	20	...
Other Diseases (male) ... ..	1	49	...	50	3
Uterus—					
Metritis ... ..	...	...	...	...	...
Uterine Displacements ... ..	...	...	...	...	...
Amenorrhœa ... ..	...	1	...	1	...
Dysmenorrhœa ... ..	...	2	...	2	1
Menorrhagia ... ..	...	1	...	1	...
Leucorrhœa ... ..	1	1	...	2	...
Other Diseases (female) ... ..	1	23	2	24	...
ORGANS OF LOCOMOTION.					
Bones—					
Ostitis ... ..	1	2	...	3	1
Periostitis ... ..	...	...	...	...	...
Caries ... ..	1	45	5	46	4
Necrosis ... ..	2	25	2	27	2
<i>Carried forward</i> ...	866	9,985	1,474	10,851	1,013

\* i.e., the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	866	9,985	1,474	10,851	1,013
LOCAL DISEASES—(cont.)					
ORGANS OF LOCOMOTION—(cont.)					
Joints—					
Synovitis ... ..	2	37	...	39	1
Ankylosis ... ..	1	3	1	4	...
Spine—					
Caries Spine ... ..	...	...	...	...	...
Curvature Spine ... ..	...	...	...	...	...
Muscles—					
Myalgia ... ..	1	11	...	12	...
Other Diseases ... ..	4	47	2	51	3
CONNECTIVE TISSUE.					
Cellulitis ... ..	2	36	5	38	6
Abscess ... ..	14	284	1	298	24
Gangrene ... ..	...	6	4	6	...
Other Diseases ... ..	1	4	1	5	...
SKIN.					
Eczema ... ..	2	97	...	99	1
Psoriasis ... ..	1	7	...	8	...
Herpes... ..	1	9	...	10	...
Do. Zoster... ..	...	1	...	1	...
Ulcer ... ..	99	1,392	1	1,491	131
Boil ... ..	1	54	...	55	...
Carbuncle ... ..	...	19	...	19	...
Onychia ... ..	...	3	...	3	...
Whitlow ... ..	...	2	...	2	...
Other Diseases ... ..	14	134	3	148	7
GENERAL INJURIES.					
Burns and Scalds ... ..	...	23	2	23	1
Sunstroke ... ..	...	1	...	1	...
Multiple Injury ... ..	...	14	2	14	3
Starvation ... ..	...	3	1	3	...
Shock ... ..	...	...	...	...	...
<i>Carried forward</i> ...	1,009	12,172	1,497	13,181	1,190

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Diseases.	* Remaining in Hospital at end of 1903.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1904.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,009	12,172	1,497	13,181	1,190
LOCAL INJURIES.					
Burns and Scalds ... ..	1	27	2	28	3
Wounds ... ..	14	437	11	451	21
Sprains ... ..	...	24	...	24	...
Dislocations ... ..	...	17	...	17	2
Fractures, simple ... ..	5	49	2	54	5
Do. compound... ..	1	21	7	22	4
Other Injuries ... ..	6	124	2	130	7
Surgical Operations ... ..	21	498	15	519	6
Malformations ... ..	...	13	...	13	11
POISONS.					
Mercury ... ..	...	1	...	1	...
Alcohol ... ..	...	...	...	...	...
Opium... ..	...	9	3	9	...
Other Poisons... ..	...	4	...	4	...
Poisoned Wounds ... ..	2	21	...	23	2
PARASITES.					
Distomum Sinense ... ..	...	...	...	...	...
Tœnia Solium... ..	...	...	...	...	...
Ascaris Lumbricoides ... ..	...	12	...	12	1
Anchylostomum Duodenale ... ..	2	28	11	30	...
Oxyuris Vermicularis ... ..	...	1	...	1	...
Filaria Medinensis ... ..	1	1	...	2	...
Acarus Scabiei ... ..	...	187	...	187	8
Tinea Circinata ... ..	...	5	...	5	...
Other Parasites ... ..	...	12	...	12	1
Under Observation ... ..	5	61	2	66	2
Malingering ... ..	...	35	...	35	...
Unknown diseases ... ..	...	11	...	11	...
TOTAL ...	1,067	13,770	1,552	14,837	1,263

\* *i.e.*, the year previous to that for which the Return is made.

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# FEDERATED MALAY STATES.

## STATE OF SELANGOR.

### ANNUAL REPORT ON THE MEDICAL DEPARTMENT FOR THE YEAR 1904.

#### POPULATION.

The estimated population of the State:

On 31st December, 1903, was	...	...	...	...	216,923
"          "          1904 "	...	...	...	...	234,404

The number of births registered was	...	...	...	2,434
And the number of deaths	...	...	...	6,040

The birth-rate per mille per annum was 10.383 as against 10.101 during the year 1903.

The death-rate per mille per annum was 25.767 as against 30.835 during the previous year.

#### METEOROLOGICAL CONDITION OF SEASONS.

The rainfall registered at the General Hospital, Kuala Lumpur, was 108.01 inches as against 89.89 inches in 1903. There was no special variation in the distribution of the rainfall.

The mean temperature was 79.8° F. as against 80.1° F. in 1903. The maximum temperature registered at Kuala Lumpur was 94° F. and the minimum 66° F.

#### NUMBER OF PATIENTS TREATED IN THE VARIOUS HOSPITALS AND INFIRMARIES.

The number of patients treated with deaths and case-mortality during the last five years is shown as follows:—

Year.	No. treated.	Deaths.	Death-rate.
1900	17,963	2,419	13.43
1901	21,351	2,797	13.10
1902	18,173	2,087	11.48
1903	14,425	1,872	12.97
1904	14,319	1,534	10.71

The total number of patients treated as in-patients was 106 less than in 1903.

The number of deaths in hospital was 338 less than in the previous year, and the hospital death-rate for the year was 10.71 per cent., which is noteworthy as being the lowest hospital death-rate recorded during the last 19 years. Included among the deaths are 280 cases in which death occurred within 48 hours of the patients' admissions to hospital in a practically moribund condition. If these be subtracted from the total number of deaths the death-rate would be 8.93 per cent. Taken with the reduction in the death-rate for the whole State this marked reduction in the hospital death-rate points to a general improvement in the health of the State. These annual statistics are, however, so easily affected by many circumstances, such as the importation of a large number of Chinese coolies, who are more easily affected by disease than those more acclimatised, that the reduced mortality cannot be wholly attributed to either improved sanitation in the case of the State or improved methods of treatment in the case of the hospitals.

#### PREVAILING DISEASES.

The following diseases caused the greatest amount of sickness and mortality:

Disease.	No. Treated.		Deaths.		Death-rate.	
	1903.	1904.	1903.	1904.	1903.	1904.
Malarial fever	1,980	2,008	153	114	7.42 %	5.67 %
Beri-beri	1,912	2,083	351	326	18.35 "	15.65 "
Diarrhœa	1,074	541	359	145	32.42 "	26.80 "
Dysentery	638	599	229	183	35.89 "	30.55 "
Pulmonary diseases	811	1,014	266	305	32.79 "	30.07 "

## MALARIA.

Two thousand and eight cases of this disease were admitted to the various hospitals with 114 deaths, as against 1,980 cases and 153 deaths in the previous year. The case-mortality was therefore 5.6 per cent. as against 7.4 per cent. in 1903. This large reduction of mortality is satisfactory and may, I think, to some extent be attributed to improved methods of treatment and more generous dieting.

There has been a slight increase of malaria in the Klang district, but it is satisfactory to note that the areas dealt with at Port Swettenham and Klang itself have proved most healthy. Malaria being practically absent from both stations. Sixty-six cases of malaria occurred at the beri-beri hospital at Jeram with one death as against 27 cases and no deaths in 1903. This increase may be attributed to the destruction of the wire gauze protection against mosquitoes. The gauze all rotted very rapidly and fell to pieces. It is supposed that the salt air had a destructive effect on it.

## BOWEL COMPLAINTS.

The decrease in the sickness and mortality caused by this form of disease, which was alluded to in my report for 1903, has continued to an even more marked extent during the year under review, as is shown by the following figures, which include the number of cases and deaths from dysentery and diarrhoea treated in hospital during the last four years.

	Cases treated.				Deaths.			
1901	...	...	...	3,826	...	...	...	1,143
1902	...	...	...	2,488	...	...	...	848
1903	...	...	...	1,712	...	...	...	588
1904	...	...	...	1,140	...	...	...	328

This extraordinary reduction, both in case-incidence and mortality, is difficult to account for wholly, by improvement in water supply, drainage and general sanitation.

There has been no outbreak of dysentery and diarrhoea amongst labour forces in any part of the State.

## BERI-BERI.

Two thousand and eighty-three cases of this disease were treated with 326 deaths as against 1,912 cases with 351 deaths in the previous year. The case-mortality was, respectively, 15.6 per cent. and 18.3 per cent. There has therefore been a slight increase in the number of cases of beri-beri with a decrease in the number of deaths caused by this disease. The most marked increase in the number of cases treated occurred at Rawang, a mining district, 244 cases having been admitted with 18 deaths as against 186 cases with 14 deaths in 1903.

The Pudo gaol was, as during the previous year, practically free from beri-beri, only 41 cases with one death having been admitted into the infirmary as against 31 cases and two deaths in 1903.

## PULMONARY DISEASES.

The number of cases of pulmonary disease treated was 1,014 with 305 deaths, as against 811 with 266 deaths in 1903.

Three hundred and seventy cases of phthisis were treated with 201 deaths, as against 334 cases and 177 deaths in 1903.

The gradual increase in the number of cases of phthisis occurring in the towns may be largely accounted for by overcrowding in the larger shop houses, which are badly lighted and ventilated. The question of overcrowding in Kuala Lumpur and the best means of preventing it is now being dealt with by the Sanitary Board, and it is to be hoped that measures may be taken to check the spread of phthisis by improved sanitation.

## VENEREAL DISEASES.

The number of cases of this class of disease treated during the last three years were as follows :

	Cases.				Deaths.			
1902	...	...	...	844	...	...	...	7
1903	...	...	...	847	...	...	...	16
1904	...	...	...	751	...	...	...	12

When the steady increase in the population of the State is considered, it is satisfactory to note that the number of cases of venereal disease shows a marked decrease.

## ZYMOTIC DISEASES.

PLAGUE.—One fatal case of plague was treated at the District Hospital, Kuala Kubu, the origin of the disease could not be traced.



SMALL-POX.—One case was removed from a ship at Port Swettenham and was isolated in the quarantine hospital. All persons on the ship were re-vaccinated and no other cases occurred. One case was admitted to the District Hospital, Kuala Lumpur.

A small outbreak of small-pox occurred among a tribe of Sakais at Rasa. The cases were naturally isolated and were visited by the Surgeon from Kuala Kubu. The disease did not spread beyond the huts in which it broke out.

CHOLERA.—No cases of cholera were reported during the year.

#### VACCINATION.

The number of persons vaccinated is shown by the following table :

Year.	No. vaccinated.	Successful.	Percentage of success.
1901	2,297	2,074	89.89
1902	2,774	2,748	99.06
1903	3,236	3,176	98.14
1904	2,722	2,663	96.73

Saigon buffalo lymph was used throughout the year and has given entire satisfaction. I am of opinion that provided it is obtained twice a week in small quantities and used as soon as possible after arrival, this lymph is all that could be desired.

#### OUT-PATIENTS.

The number of persons applying for out-patient relief was 38,774 as against 36,174 in the previous year. The most marked increase in the number of patients occurred at the General Hospital, Kuala Lumpur, where 11,120 visits were paid as against 8,259 in the year 1903.

#### DISTRICT HOSPITAL, KUALA LUMPUR.

District Surgeon Dr. McClosky reports as follows on the hospitals under his charge:

“ADMISSIONS.—Three thousand nine hundred and sixty-nine patients were admitted during the year, which, with 264 remaining at the end of the previous year, gives a total treated of 4,233.

“The following diseases caused more than half of the admissions :

“ Beri-beri	771	“ Tuberculosis...	172
“ Ulcers	460	“ Syphilis	124
“ Rheumatism...	297	“ Soft Chancre	104
“ Malaria	278	“ Anæmia	103
“ Dysentery	275		

“The average daily number of sick was 317.62 against 288.62 last year.

“MORTALITY.—Six hundred and fifteen deaths occurred during the year, representing a mortality of 14.52 per cent., against 720 deaths and a mortality of 16.62 per cent. last year.

“Ninety-four deaths occurred within 48 hours after admission and, excluding these, the death-rate is 12.58 per cent., excluding dysentery, tuberculosis and beri-beri the death-rate from all other diseases is 8.05 per cent.

“The following diseases caused the largest number of deaths :

Diseases.	1904.		1903.	
	No. of deaths.	Percentage.	No. of deaths.	Percentage.
Beri-beri	146	16.83	192	21.30
Dysentery	121	42.16	109	44.85
Tuberculosis	114	65.51	100	66.22
Cirrhosis of liver	38	42.69	32	60.37

#### SPECIAL DISEASES.

“BERI-BERI.—The admissions from this disease were less than those of the previous year and the death-rate is the lowest recorded during the last five years.

“The following table shows the admissions and death-rate for the last five years :

Year.	Admission.						Death-rate.
“ 1900 ... ..	836	...	...	...	...	...	20.91 per cent.
“ 1901 ... ..	599	...	...	...	...	...	21.55 „
“ 1902 ... ..	761	...	...	...	...	...	18.84 „
“ 1903 ... ..	801	...	...	...	...	...	21.30 „
“ 1904 ... ..	771	...	...	...	...	...	16.83 „

“ Fifty-one patients were transferred to Jeram Hospital during the year.

“ **DYSENTERY.**—Two hundred and eighty-seven cases were treated with 121 deaths and a mortality of 42.16 per cent. against 243 cases treated, 109 deaths and a mortality of 44.85 per cent. last year. Two of the cases were complicated with abscess of liver, one with enteric fever and two with tuberculosis.

“ **DIARRHŒA.**—There was a marked diminution in the number of cases treated for this disease. Only 73 cases were treated with 12 deaths and a mortality of 16.43, as compared with 159 cases treated last year with 77 deaths and a mortality of 48.42 per cent.

“ **MALARIA.**—Two hundred and eighty-three cases were treated during the year, an excess of 30 over last year.

“The following table shows the type, and the number of cases in each type, for the last three years :

Type.	1904.	1903.	1902.
“ Malignant ... ..	193	136	81
“ Quartan... ..	55	79	55
“ Benign tertian ... ..	35	26	43
“ Mixed types ... ..	...	12	...
Total ... ..	283	253	179

“It will be observed that the order of prevalence is the same for each year, the malignant type are easy first and the quartan second. The return shows 27 deaths from this disease, but five of these deaths were directly due to other concomitant diseases such as dysentery, pneumonia and diarrhœa. Twenty-two deaths, therefore, were directly attributable to this disease, giving a death-rate of 7.91 per cent. Of these 22 deaths nine occurred within 24 hours and eight within 48 hours after admission, so that excluding these the death-rate is only 1.91 per cent.

“The districts from which most of the cases came were, Gombak 72, Kuala Lumpur 45, Ampang 21, Kepong 12, Sungei Besi 11.

“ **TUBERCULOSIS.**—The return shows 174 cases treated and 114 deaths, but this disease complicated seven other diseases and was their immediate cause of death. The percentage of death therefore is 66.85.

“The following table shows the number of cases treated of this disease, and number of deaths for each of the last three years, and reveals a marked increase for the year under review.

	1904.	1903.	1902.
“ No. of cases treated ... ..	181	156	156
“ No. of deaths ... ..	121	105	103

“The districts from which most of the cases came were as follows :

“ Ampang 34, Kuala Lumpur 36, Sungei Besi 12, Pudoh 10, and Rawang 10.

“ **ENTERIC FEVER.**—The return shows 16 cases treated with nine deaths, but this disease formed a complication of two other fatal diseases, so that the total was 18 cases and 11 deaths. Three of the patients died within 48 hours after admission. Two of the cases had perforation and peritonitis.

“ **ABSCCESS OF LIVER.**—Four cases came under observation. One was operated on and recovered; the other three had multiple abscesses, were complicated with dysentery and proved fatal.

“ **POST-MORTEM EXAMINATION.**—One hundred and thirty-eight were performed at the District Hospital and 75 at the Institute for Medical Research by the Director and his staff.

#### INFECTIOUS DISEASE WARD.

“Only one case was treated in this ward and that was one of confluent small-pox which proved fatal.

#### VAGRANT WARD.

“One hundred and fifty-three cases were treated in this ward with 17 deaths and a death-rate of 11.11 per cent. This is a marked increase over last year when only 35 vagrants were admitted to this ward.

“The nationalities of the vagrants were :

“ Chinese ... ..	145
“ Tamils ... ..	7
“ Bengalese ... ..	1



“The chief diseases for which they were treated were ulcers 31, beri-beri 16, anæmia 18, rheumatism 13, dysentery 10. The average daily number of sick was 11.08. The deaths were due to beri-beri, dysentery, diarrhœa, tuberculosis and anæmia. All the deaths were amongst the Chinese.

#### LEPER HOSPITAL.

“One hundred and twenty-nine lepers were admitted during the year against 112 last year, and the total treated 253 against 240 the previous year. Of the admissions 10 were Tamils, one Malay and the rest Chinese. The 129 admissions do not all represent new cases, as some of them were re-admissions. One hundred and seven were new cases, 22 re-admissions. Forty-eight were admitted from Negri Sembilan and three from Pahang. Sixty-one absconded during the year, but most of them returned voluntarily or were brought back by the Police.

“Forty-seven deaths occurred during the year, giving a death-rate of 18.57 per cent. The following table shows the comparative figures for the last three years:

Year.	Admitted.	Total treated.	Absconded.	Died.	Mortality.
“1902 ...	107 ...	232 ...	49 ...	54 ...	23.27 per cent.
“1903 ...	112 ...	240 ...	43 ...	70 ...	29.16 „
“1904 ...	129 ...	253 ...	61 ...	47 ...	18.57 „

“The average daily number of sick was 133.37. Discipline was well maintained during the year.

“I have again to record the valuable assistance afforded me by the Director, Institute Medical Research, and its staff.”

#### THE PUDOH GAOL.

The State Surgeon acted as Medical Officer to the gaol until November, when Dr. Bridges, House Surgeon, visited daily under the supervision of the State Surgeon. The average daily number of convicts in the gaol was 550 as against 448 in the previous year. The total number of prisoners treated in the infirmary was 354 with 11 deaths as against 295 and seven deaths in 1903.

The general health of the prisoners was excellent, only two deaths were due to dysentery, and no patients died from either diarrhœa or pneumonia. The comparative absence of these diseases from a gaol may be taken as a proof that the ventilation, general sanitation and food supply has been satisfactory.

BERI-BERI.—The Pudoh gaol has been comparatively free from beri-beri throughout the year.

The number of cases admitted monthly for the last three years were as follows:

Month.	1902.	1903.	1904.
January ...	68 ...	22 ...	nil
February ...	44 ...	nil ...	2
March ...	63 ...	„ ...	8
April ...	80 ...	„ ...	3
May ...	91 ...	„ ...	nil
June ...	83 ...	„ ...	4
July ...	67 ...	„ ...	7
August ...	75 ...	„ ...	3
September ...	131 ...	1 ...	2
October ...	98 ...	2 ...	3
November ...	35 ...	5 ...	1
December ...	35 ...	1 ...	8
Total ...	870	31	41

Of the cases admitted in 1904, four arrived at the gaol suffering from the disease, nine were old cases which had previously been admitted to the infirmary with beri-beri, 16 had suffered from the disease previous to being sentenced and only 13 apparently contracted the disease in the gaol. One death was caused by beri-beri during the year.

During the greater part of the year the prisoners were employed inside the gaol walls.

#### THE EUROPEAN HOSPITAL.

This hospital was occupied in February, 1904, a House Surgeon was appointed in October, and the institution is now under the superintendence of the State Surgeon.

Seventy-four patients were treated with two deaths as against 27 with three deaths in 1903, when the Europeans were treated in a small bungalow in connection with the General Hospital.



The deaths were due to abscess of the liver. Both of these patients came from Pahang with the disease in such an advanced state that neither of them survived operation for more than a few days.

#### GENERAL HOSPITAL.

Dr. Fletcher, Surgeon in charge, reports as follows :

“The number of patients treated during the year 1904 shows but a slight increase on the preceding years, but until the early part of 1904, the European patients were admitted to the General Hospital, of which the European Ward formed a part; moreover, during 1904, there were fewer patients admitted to the Malay States Guides ward, as one of the two companies stationed here was transferred to Taiping in October. Thus in 1903 there were more Europeans and Sikhs admitted than during last year.

“The respective number of nationalities admitted remained about the same with the exception of Tamils, who showed an increase of over one hundred, the numbers being :

“1903	...	...	...	614		“1904	...	...	...	736
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The number of admissions for the last three years were as follows:

“1902	...	...	...	2,170		“1904	...	...	...	2,464
“1903	...	...	...	2,244						

“The number of deaths was slightly larger. In 1903 there were 106 deaths in hospital, in 1904, 123. The mortality being 4.99 from the whole hospital or 3.01 exclusive of females.

“The diseases causing the largest number of admissions were malaria 305 cases with three deaths. In 1903 there were 458 cases with 14 deaths. The three deaths were due to malignant tertian fever. Three-quarters of the cases in which the parasites were found were malignant tertian usually of a mild type. Many of the cases of benign tertian fever came from Ulu Gombak. This fever was frequently associated with malignant tertian and was attended with profound anæmia and œdema but responded readily to treatment.

“The number of each type was as follows :—

“Malignant tertian	...	...	...	...	...	137
“Benign tertian and mixed	...	...	...	...	...	42
“Quartan	...	...	...	...	...	2
“Type not diagnosed	...	...	...	...	...	124
						Total ... 305

“RESPIRATORY DISEASES.—Forty-eight cases of phthisis were treated in hospital with 16 deaths, the remainder going out not cured, but as a rule to die in their homes or to return to their native countries. In 1903 31 cases were admitted with 19 deaths.

“There were 24 cases of lobar pneumonia treated, with the high case-mortality of nearly 50 per cent. The patients have almost all been Tamils and have come in after they have been ill for several days. They appear to have but little stamina or strength to resist the disease.

“DYSENTERY AND DIARRHŒA.—Two hundred and thirteen cases with 21 deaths.

“DYSENTERY AND PHTHISIS were responsible for more deaths than any other diseases.

“Phthisis here is favoured by :

“1. Susceptibility of the native population. The Indians especially having a low resisting power.

“2. The insanitary and over-crowded condition of the houses and bangsals in which they live.

“3. The number of persons living in the same rooms. Most cases of phthisis, if they are admitted to hospital at all, do not come in until the disease is far advanced. In the meantime they are usually sleeping in a room at a mining bangsal shared by a crowd of other persons and act as centres of infection.

“DYSENTERY.—The usual history of the dysentery cases admitted to hospital is that the patient first has several slight attacks which he treats with native medicine. Eventually he gets a severe dysentery and comes into hospital in a very debilitated state. As soon as he is well enough, if he recover, he goes out, returns to his usual diet, gets a relapse, and having once been cured in hospital comes back and dies there.

“Anchylostomiasis is a frequent concomitant of dysentery here, and when the two occur together the prognosis is grave.

“BERI-BERI.—There were 43 cases treated with 11 deaths, compared with 28 cases and six deaths in 1903, and 40 cases with 11 deaths in 1902. In most cases there was a history of initial fever or antecedent diseases. In women beri-beri always followed parturition.

“ENTERIC.—There were 14 cases with four deaths. In 1903 there were six cases with two deaths.

“RELAPSING FEVER.—One case was admitted which occurred in a Cashmiri, who had only arrived in the country ten days before. I have heard of no further cases.

“FEMALE WARD.—The percentage of deaths in the female ward was 13.73, whereas for the rest of the hospital it was only 3.2 per cent. Most of the patients admitted to the female ward are generally so ill before they seek admission that little can be done for them. The new ward for Eurasian ladies has now been opened and except for a short interval has always been occupied.

“CHILDREN.—Many infants are brought up to the hospital suffering from diarrhoea caused by improper feeding with tinned milks.

“During the year 1904 there were 222 operations performed under anæsthetics with eight deaths.

“There has been a remarkable increase in the out-patient department, the figures being 11,120 for 1904 as against 8,259 for 1903, an increase of nearly 3,000.

“POLICE WARD.—During the year there were 563 cases treated in the police ward with two deaths. One from pemphigus and one from enteric. The principal diseases amongst the police ward was as follows:—

“Abscess, boils, scabies and impetigo	...	...	...	...	85
“Bronchitis and cold	...	...	...	...	79
“Malaria	...	...	...	...	71
“Diarrhoea and dysentery	...	...	...	...	59

“The number of admissions from scabies, boils and impetigo is excessive. The cause is probably to be found in want of cleanliness in the puttees, clothing and bedding, and in badly fitting boots.

“The new Police Dresser is to visit the barracks, and it should be possible to reduce the number of admissions from these cases. The Sikhs and Pathans appear to be specially liable to cold and bronchitis. More than 50 per cent. of the patients suffering from these diseases treated in the whole of the General Hospital were Sikhs or Pathans, though these nationalities constituted only 30 per cent. of the total number of patients admitted.

“The malaria was chiefly of the malignant tertian variety, but was of a mild type and occasioned no deaths.”

#### LUNATIC ASYLUM.

The number of lunatics treated in the asylum was 193 with 33 deaths, as against 180 with 52 deaths during the previous year. During the latter months of the year the asylum was much over-crowded and lunatics from the neighbouring States of Pahang and Negri Sembilan had to be refused admission.

One hundred and forty-three lunatics were admitted during the year, 75 were discharged, 33 died, and 52 remained under treatment at the end of the year.

#### KLANG DISTRICT.

Dr. Watson, District Surgeon to the Coast District, reports as follows on the various hospitals under his charge:

“There has been an increase in the number of patients, both of those admitted to hospital and also of those treated at the out-door department, as the following table shows:

Year.	In-door.				Out-door.
	Total treated.	Deaths.	Mortality.	Net mortality.	Total treated.
1901 ... ..	1,822	232	12.73	8.61	2,789
1902 ... ..	1,406	153	10.88	7.46	2,389
1903 ... ..	1,218	124	10.18	8.07	2,688
1904 ... ..	1,394	141	10.11	8.10	3,476

“The explanation of the increase appears to be that (i.) the year was rather more unhealthy than 1903 and (ii.) sickness of an increasing population reflects itself in the hospital statistics now that malaria has practically been eliminated from Klang and Port Swettenham.



## PREVALENT DISEASES.

“The following table shows the more prevalent diseases with their respective mortalities :

Disease.	No. treated.	No. of deaths.	Mortality.
“ Diarrhœa and dysentery ...	81	27	33.03
“ Malaria ... ..	303	27	8.91
“ Pneumonia ... ..	28	10	35.71
“ Phthisis ... ..	24	17	70.83
“ Ulcer ... ..	172	1	.58
“ Beri-beri ... ..	73	10	13.69

“Malaria now shares with bowel diseases the responsibility for causing the greatest mortality in the hospital, but this mortality it is satisfactory to find is now much less than it was, as is evident from the following table :

Year.	Bowel diseases.			Malaria.		
	No. treated.	Deaths.	Mortality.	No. treated.	Deaths.	Mortality.
1901 ... ..	207	87	42.02	822	71	8.63
1902 ... ..	149	56	37.58	417	32	7.67
1903 ... ..	118	39	33.00	230	19	8.26
1904 ... ..	81	27	33.03	303	27	8.91

“This great diminution in the number of bowel diseases can at least be accounted for in part by the improved health of Klang and Port Swettenham, resulting not only from the anti-malaria measures but also from the improved water supply and greater attention to general sanitation. In part, however, it is due to the fact that a number of cases which formerly would have been classed as bowel diseases, now appear under the heading malaria, as the parasites of malaria were found to be the real cause of the disease. The administration of quinine in these cases has given the most satisfactory results, as is shown by the fact that their inclusion with malaria has not increased the mortality rate of that disease to any extent.

## MALARIA.

“The number of cases of malaria shows an increase this year :

Year.	In-door.		Out-door.	
	Fever.	Other diseases.	Fever.	Other diseases.
1901 ... ..	807	962	965	1,824
1902 ... ..	403	952	364	2,025
1903 ... ..	219	925	245	2,443
1904 ... ..	298	1,037	240	3,236

“The increase has been entirely from the district outside of Klang and Port Swettenham. These two towns appear to be practically, if not absolutely, free from malaria, and the result of the various sanitary measures carried out in them has lowered the number of deaths by about 400 per annum—*i.e.*, about 1,200 lives have been saved in the past three years.

## JUGRA HOSPITAL.

“The number of patients treated is shown in the following table :

Year.	In-door.			Out-door.	Malaria.	
	Total treated.	Deaths.	Mortality.	Total treated.	Number.	Percentage.
1901 ... ..	434	46	10.46	1,204	915	55.8
1902 ... ..	267	21	7.63	567	279	33.4
1903 ... ..	206	12	5.82	1,066	328	26.9
1904 ... ..	192	10	5.20	1,451	322	19.7



“The health of Jugra remains much as it was in 1903 as far as malaria is concerned. During the year, I suggested an inexpensive scheme for draining the swamps at the foot of Jugra hill, and provision has been made for this in the Estimates for 1905.

“The dispensary at Sepang was visited regularly by a dresser from Jugra, and towards the end of the year was attended by many patients, mostly those engaged on the new road from Labu to Sepang. During the year the hospital was made mosquito proof and the main ward re-painted. The jungle was also pushed a little further back.

#### KUALA SELANGOR.

“The work done is shown below :

Year.	In-door.		Out-door.
	Total treated.	Mortality.	Total treated.
1901 ... ..	221	3.16	1,317
1902 ... ..	158	8.22	1,770
1903 ... ..	168	4.16	1,314
1904 ... ..	184	4.62	1,045

“During the year the wards were made mosquito proof. The compound is being gradually improved. During 1903 I recommended the draining and filling in of certain swamps in the town of Kuala Selangor. This work has been carried out and has improved the town considerably.

#### JERAM HOSPITAL.

“The number of patients treated is shown below :

	1901.	1902.	1903.	1904.
“Beri-beri ... ..	138 ...	112 ...	114 ...	132
“Malaria ... ..	27 ...	31 ...	29 ...	64
“Other diseases ... ..	46 ...	49 ...	52 ...	100
“Total death-rate ... ..	15.11 ...	10.41 ...	9.23 ...	10.81
“Beri-beri, total death-rate ... ..	21.69 ...	12.50 ...	10.52 ...	17.42
“Out-patients ... ..	462 ...	297 ...	336 ...	693

“The death-rate of the beri-beri patients has been slightly higher than during the previous year but this has been due, I think, to a number of the patients being in a hopeless condition when taken to Jeram. The beri-beri patients have suffered considerably from malaria during the year, as the mosquito gauze perished rapidly. From Jeram, south, the fishermen have suffered a good deal from malaria and have applied for treatment to Jeram Hospital.”

#### ULU SELANGOR DISTRICT.

District Surgeon, Dr. Delmege, reports as follows on the hospitals under his charge in the Ulu Selangor district :

“The total number of cases treated in the district show a marked decrease from the preceding year :

	1904.				1903.			
	Total treated.				Total treated.			
	In.	Out.	In.	Out.	In.	Out.	In.	Out.
“Kuala Kubu ... ..	1,543	6,319	1,927	6,069	...	...	...	...
“Serendah ... ..	952	2,631	1,080	3,831	...	...	...	...
“Rawang ... ..	942	2,081	931	2,226	...	...	...	...
“Rasa ... ..	—	4,750	—	4,864	...	...	...	...
Total ... ..	3,437	15,781	3,938	16,990	...	...	...	...

“This reduction is due to the fact that during the year some large mines were worked out and the coolies went elsewhere, but judging from the number of surveys made and licenses granted for prospecting it is probable that this reduction is only temporary.

Mortality.	1904.	1903.
“Kuala Kubu ... ..	17.20	20.04
“Serendah ... ..	7.87	11.06
“Rawang ... ..	6.90	10.09

“With a decrease in the number of cases treated it is satisfactory to note a lower percentage mortality. The high death-rate at Kuala Kubu (which was the subject of correspondence last year) has been somewhat reduced.

Kuala Kubu.				1904.	1903.
“Beri-beri ...	...	...	...	38.59	40.24
“Diarrhoea...	...	...	...	42.74	42.62
“Dysentery	...	...	...	30.00	65.16

“I think this has been effected in two ways.

“(i). Better sanitary conditions; (a) completion of extensions of drains; (b) the conversion of the diarrhoea and dysentery ward from a wooden to cement floor.

“(ii). By a more liberal diet, and free use of medical comforts.

“EPIDEMICS.—In January, 1904, there were two deaths from bubonic plague in Kuala Kubu. In the spring there was an outbreak of small-pox amongst the Sakais about five miles from Rasa.”

#### DISTRICT HOSPITAL, KAJANG.

This hospital has been under the care of Apothecary Ngai Leung. The work done during the year was as follows:

	Total treated.	Deaths.	Death-rate.
1903 ... ..	1,105	90	8.14
1904 ... ..	971	48	4.94

Two hundred and two cases of beri-beri came under treatment with seven deaths, the disease being of a very mild type.

#### DISTRICT HOSPITAL, SUNGAI BESI.

This small hospital has been under the care of a Chinese dresser. One hundred and seventy-two cases were treated with 28 deaths, a percentage of 16.27.

Eighty-two cases of beri-beri were treated with 19 deaths. Most of these cases came from the neighbouring mines and were of a severe type.

#### VETERINARY BRANCH.

Mr. Ford, Veterinary Surgeon, reports as follows:

“The following outbreaks of epidemic diseases occurred:

“RINDERPEST.—*Kuala Selangor*.—In the early part of February, I received a report that cattle were dying, and on visiting found several cases of the disease, which was imported in some cows and calves coming direct from Penang. At the time of importation, 3rd January, there was no quarantine against Penang, so the cattle were taken through by road from Port Swettenham at once. A few days after my arrival at Kuala Selangor, one of the calves died, then others of the same cargo, and as a few of the animals had been sold soon after arrival, the disease appeared in other sheds. From Kuala Selangor the disease was taken to Bukit Rotan road, by some bullocks belonging to a contractor, three died here, and two others were shot, with the hope of stopping the further spread of the disease.

“The usual means of strict isolation, closing of the roads to Klang and Rawang, with the use of anti-rinderpest serum for the first time, prevented any spread of the epidemic, either towards Klang or Rawang. Forty-five animals altogether died of rinderpest, and two were shot suffering from the disease.

“*Kuala Lumpur*.—On 22nd February a man living at Bukit Bintang road, reported that a bullock of his had died, this on examination proved to be a case of rinderpest, investigation revealed the fact that this animal formed one of a lot of 14 cattle imported from Penang on 10th February. These animals had undergone a period of 10 days' quarantine at Port Swettenham before coming to Kuala Lumpur. I have no doubt that one or two mild cases of the disease (such as is frequently seen in Indian cattle) occurred amongst these animals while they were detained in quarantine and were overlooked.

“From the Bukit Bintang road, by sales and removals of in-contact animals, rinderpest has spread all over Kuala Lumpur.

“Quarantine stations have been established at Bukit Sintol, on the Maxwell road, and near the Leper Hospital, and to these stations have been removed all sick and in-contact animals.

“By this means I have been able to allow cattle not directly exposed to infection to continue at work.



“Inoculation with anti-rinderpest serum obtained from India has been practised all through the epidemic, and altogether 1,684 cattle of all sorts and ages have been inoculated, of these a total of 147 have died of rinderpest. Two were shot suffering from the disease in its last stages, as I did not consider it safe to remove them from their owners' sheds to the quarantine station along the public road. Two hundred and eighteen animals have died from, or been destroyed suffering with, rinderpest, these were all un-inoculated cases, and were either reported by the owners, or found by myself or Inspectors during our rounds. In several cases no owners could be found, the animals being turned loose at pasture, and everyone in the neighbourhood denying all knowledge of them. In other cases dead bodies were found recently buried, and all knowledge of them denied. Twenty-eight animals were shot, either because owners could not be found for them, or that they were in such an advanced stage of the disease it was not safe to remove them.

“*Port Swettenham.*—On 19th June a cargo of buffalo calves were imported from Singapore, and six days after arrival in the quarantine station three of them were found suffering from rinderpest. This outbreak caused the death of four buffalo calves and five Bali bullocks.

“On 9th November a bullock belonging to a butcher developed symptoms of rinderpest while suffering from foot-and-mouth disease. I could not trace the origin of this outbreak, which caused the death of ten bullocks and four buffaloes belonging to the two butchers. There were a good many animals in the sheds at this time, and the reason there were not more deaths is due to the fact that I had all the healthy beasts removed to Kuala Lumpur and slaughtered as soon as possible. The first case occurred about eight days after landing from Singapore, and there had been no case of rinderpest in the sheds since July.

“*Ulu Langat.*—At 17th mile, Ulu Langat road, a Malay brought a pair of bullocks from Kuala Lumpur by road and evaded the barrier at  $7\frac{1}{2}$  mile, Cheras road, one of these bullocks and a buffalo belonging to another man died of rinderpest. He was prosecuted at Kajang for removing bullocks from Kuala Lumpur and also for not reporting the existence of disease in his bullock, and fined \$125. The Ulu Langat road was closed for traffic at 16th mile from 29th October to 16th December. All the animals in the vicinity were inoculated with serum and no further cases occurred.

“*Cheras Road, 10th Mile.*—On 22nd November a case of rinderpest was reported. I could not trace the origin of this outbreak. The last case died 22nd December. In all, five bullocks died and one was shot suffering from the disease. The road was closed at  $9\frac{1}{2}$  and 11th miles and has not yet been re-opened. All the remaining animals in the vicinity, 23 in number, have been inoculated.

“**FOOT-AND-MOUTH DISEASE.**—There have been 379 cases of this disease during the year, which was found on three occasions at Port Swettenham quarantine station in cattle recently arrived from Singapore. Five deaths have occurred in animals suffering from the disease, two at Kuala Selangor and three at Kuala Lumpur. The disease has been of the usual mild type generally, the deaths being due more to neglect and the half starved condition of the animals than the disease.

“**RABIES.**—Only two cases of this disease have come to my knowledge, a *Gazette* notification was published 12th October ordering muzzling or confinement of all dogs for a period of two months. Other cases of rabies occurred in Kuala Lumpur, which were investigated and dealt with by the Director, Institute of Medical Research.

“The cattle-owners have given a great deal of trouble to the department during the year, first by not forthwith reporting disease amongst their animals, and secondly by removing the in-contact animals before reporting the existence of disease. It is solely through this that I have not been able to stamp out the epidemic before now.”

#### EXAMINATION OF PETROLEUM AT PORT SWETTENHAM.

Testing of petroleum at Port Swettenham was carried out under the supervision of District Surgeon Dr. Watson. The total quantity imported was 1,127,486 gallons, of which 10,162 gallons was described as dangerous petroleum. Thirty-one samples were tested during the year.

E. A. O. TRAVERS,  
*State Surgeon, Selangor.*



